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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,122	01/03/2002	Mitsuhiko Kadono	011452	8413

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EXAMINER

PROCTOR, JASON SCOTT

ART UNIT	PAPER NUMBER
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2123

MAIL DATE	DELIVERY MODE
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11/29/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of Allowability

Application No.

10/034,122

Examiner

Jason Proctor

Applicant(s)

KADONO, MITSUHIKO

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to RCE filed 10 September 2007.
2. ☒ The allowed claim(s) is/are 4,6,7 and 9.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

EXAMINER'S AMENDMENT

Claims 4, 6, 7, and 9 are allowed.

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Andrew Melick (56,868) on 14 November 2007.

The application has been amended as follows:

In claim 4, after line 5, insert a new line reading –a processor with memory comprising:–

In claim 7, after line 5, insert a new line reading –a processor with memory comprising:–

2. The following is an examiner's statement of reasons for allowance:

The Examiner's amendment entered above is supported by the teachings of the specification disclosing computer aided design (CAD) and an "automatic programming apparatus," for example pages 11-12. A person of ordinary skill in the art would understand from the disclosure of the application that the invention resides in the context of at least a general purpose computer including at least a processor and memory.

The Examiner has fully considered the arguments presented in the 9 August 2007 submission and finds them persuasive. While the claimed elements may each be found separately in the prior art, the test for obviousness requires assessing whether a person of ordinary skill in the art would have been motivated to combine the teachings of the prior art to arrive at the claimed invention. After careful consideration of the best prior art available to the Examiner, the Examiner finds the claimed invention non-obvious over that prior art. In particular, the allowable subject matter is found in the claim language, including:

(Claim 4) the multiplicity of lattice points being each defined by three-dimensional coordinate data and connection information indicative of whether or not lattice points are present at positions adjacent to a lattice point of interest... wherein the three-dimensional coordinate data used to define one lattice point are not connection information used to define another lattice point... a surface lattice point extracting section which extracts surface lattice points defining surfaces of the workpiece to be obtained after the machining... and wherein said extracted surface lattice points are not expressed in the form of blocks

(Claim 7) the multiplicity of lattice points being each defined by three-dimensional coordinate data and connection information including six connection signs indicative of whether or not lattice points are present at positions adjacent to a lattice point of interest... a surface lattice point extracting section which extracts surface lattice points defining surfaces of the workpiece to be obtained after the machining... and wherein said extracted surface lattice points are not expressed in the form of blocks

in conjunction with the other recited claim limitations.

While Frisken-Gibson teaches "linked volumes" and Maeda teaches simulated machining by subtracting from lattice representations of a stock blank, both references are directed to producing a "block" representation of the resulting simulated part (Frisken-Gibson, page 334, left column; Maeda, FIG. 4, abstract). These references emphasize the importance of their respective techniques, for which the block representations are critical. Although other prior art references may teach a non-block form of extracted lattice points, a person of ordinary skill in the art would not be motivated to combine that teaching with Maeda in view of Frisken-Gibson because of the importance of the block representation in those references.

Maeda in view of Frisken-Gibson was the best available combination of prior art references to teach the claimed invention and the 9 August 2007 amendment to the claims has distinguished the claimed invention over those references. The prior art fails to provide teachings that would motivate a person of ordinary skill in the art to arrive at the claimed invention. The claimed invention is therefore non-obvious over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

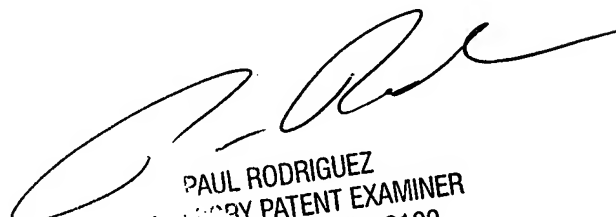
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Proctor whose telephone number is (571) 272-3713. The examiner can normally be reached on 8:30 am-4:30 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached at (571) 272-3753. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason Proctor
Examiner
Art Unit 2123

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PAUL RODRIGUEZ
PRIMARY PATENT EXAMINER
TECHNOLOGY CENTER 2100